

What is claimed is:

1. A sprocket, said sprocket comprising:

a body having a center, a perimeter, an inner side, an outer side, and a plurality of circumferentially spaced teeth extending radially and outwardly from an outer periphery of the sprocket body, wherein each tooth includes a tip and a base;

wherein the center includes at least three engaging recessions;

wherein the outer side of the body includes a recessed surface and optionally at least two raised surfaces and;

wherein each raised surface extends from the tip of each tooth to below the base of the tooth and projects from at least a first perimeter segment of said outer side and wherein at least a second perimeter segment of said outer side is free of raised surface; and

wherein the inner side of the body is free of raised surfaces.

2. The sprocket according to claim 1, wherein the sprocket has a non-circular shape having two high sides and two low sides.

3. The sprocket according to claim 2, wherein the raised surfaces are located on the high side of the sprocket.

4. The sprocket according to claim 1, wherein the sprocket has a circular shape.

5. The sprocket according to claim 4, wherein the raised surfaces are distributed evenly throughout the perimeter of the body.

6. A one piece spacer comprising:
a boss part;
a ring part;
wherein the ring part is placed on a circle concentric with, but larger in circumference than the boss part;
wherein the boss part includes an outer perimeter, an inner perimeter, a front face, and a back face;
wherein the inner perimeter includes engaging channels and engaging protrusions which extend in the axial direction; and
wherein the outer perimeter includes at least three projections.
7. A sprocket assembly comprising:
A) at least two sprockets axially and concentrically positioned relative to one another;
wherein each sprocket comprises:
a body having a center, a perimeter, an inner side, an outer side, and a plurality of circumferentially spaced teeth extending radially and outwardly from an outer periphery of the sprocket body, wherein each tooth includes a tip and a base;
wherein the center includes at least three engaging recessions;
wherein the outer side of the body includes a recessed surface and optionally at least two raised surfaces and;
wherein each raised surface extends from the tip of each tooth to below the base of the tooth and projects from at least a first perimeter segment of said outer side and wherein at least a second perimeter segment of said outer side is free of raised surface;
wherein the inner side of the body is free of raised surfaces; and

B) at least one spacer located between two sprockets, the spacer comprising:

a boss part;

a ring part;

wherein the ring part is placed on a circle concentric with, but larger in circumference than the boss part;

wherein the boss part includes an outer perimeter, an inner perimeter, a front face, and a back face;

wherein the inner perimeter includes engaging channels and engaging protrusions which extend in the axial direction; and wherein the outer perimeter includes at least three projections.

8. The sprocket assembly according to claim 7, wherein only the boss part of the spacer enters the center of the sprocket, and wherein the projections slidably engage with the recessions of the sprocket.

9. The sprocket assembly according to claim 7, wherein the projections move freely laterally inside the recessions of the sprocket.

10. The sprocket assembly according to claim 9, wherein each sprocket independently moves inside the assembly.

11. The sprocket assembly according to claim 10, wherein each sprocket moves laterally to meet with a chain link during the passing of a chain from one sprocket to the next sprocket.

12. The sprocket assembly according to claim 7, wherein the inner side of the body of the sprocket faces the next smaller

sprocket, and the outer side of the body faces the next larger sprocket.

13. The sprocket assembly according to claim 7, wherein during the transfer of a chain from sprocket to sprocket, only the raised surfaces of the sprocket engages link plates of the chain.

14. The sprocket assembly according to claim 7, the assembly includes an even size sprocket adjacent to an odd size sprocket.